

Report No: 15P0A0010_I

FSP084-DIBAN2

with

BOXER-6652

Power Electronics Test Report

Summary	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> Pass with Deviation Comment:			
Test Result Summary				
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	0
Defect Unsolved	0	0	0	0

Issue date	Approval	Test Engineer
08/26/2015	KJ Wang	Mike Lee

Table of Contents

1. Project.....	3
2. Power Manufacturer	3
3. Team Member	3
4. Test Equipment.....	3
5. AC Adapter Spec.....	3
6. Test Item.....	4
6.1. AC Input Current.....	4
6.2. MAX Inrush Current	4
6.3. Input Frequency & Voltage	4
6.4. Switching Test.....	4
6.5. Efficiency	4
6.6. Line Regulation.....	4
6.7. Load Regulation	4
6.8. Over-Voltage Protection	4
6.9. Over-Current Protection	4
6.10. Over-Load Protection	4
6.11. Short Circuit Protect.....	4
6.12. Ripple & Noise.....	5
6.13. Setup Time	5
6.14. Hold up Time.....	5
6.15. Rise Time.....	5
6.16. Turn on Overshoot	5
6.17. Turn off Undershoot.....	5
6.18. Power Consumption Test with DC Power	5
6.19. Power Consumption Test with AC Adapter	5

1. Project

FSP084-DIBAN2 AC-DC Adapter for BOXER-6652

2. Power Manufacturer

FSP

3. Team Member

PM : Ken Pan ; H/W : Sion Weng

4. Test Equipment

4.1. LCD Monitor : CHIMEI , Model : CMV736A

4.2. PCB Board : AAEON , PBA-QM87 Rev A1.0

4.3. CPU : Intel ® Core ™ i5-4402E (2.7GHz, 25W)

4.4. HDD : TOSHIBA MK1060GSC 2.5" SATA HDD 100GB

4.5. Memory : Innodisk DDR3L 1600 W/T SO-DIMM 8GB(M3SW-8GPSDD0C-A26)

5. AC Adapter Spec

AC Input : 90VAC~264VAC / 47Hz~63Hz

DC Output : 12VDC Min Load : 0A Full Load : 7A / 84W

6. Test Item

Test Item	Test Condition / Specification		Sanction	
			Measured	Result
6.1. AC Input Current	I/P:115VAC	1.3A	0.82A	PASS
	I/P:230VAC	0.8A	0.42A	PASS
6.2. MAX Inrush Current	I/P:115VAC	A	8.44A	-
	I/P:230VAC	A	8.36A	-
6.3. Input Frequency & Voltage	I/P:90VAC/47HZ	■ON □ OFF	-	PASS
	I/P:90VAC/63HZ	■ON □ OFF	-	PASS
	I/P:264VAC/47HZ	■ON □ OFF	-	PASS
	I/P:264VAC/63HZ	■ON □ OFF	-	PASS
6.4. Switching Test	Switching Time: 0.5 Sec MIN Load / Full Load	@90VAC ■ON □ OFF	-	PASS
	Switching Time: 0.5 Sec MIN Load / Full Load	@115VAC ■ON □ OFF	-	PASS
	Switching Time: 0.5 Sec MIN Load / Full Load	@230VAC ■ON □ OFF	-	PASS
	Switching Time: 0.5 Sec MIN Load / Full Load	@264VAC ■ON □ OFF	-	PASS
6.5. Efficiency	I/P:115VAC O/P:7 A	@88%Min Average Efficiency(for four Load)	88.868%	PASS
	I/P:230VAC O/P:7A	@88%MinAverage Efficiency(for four Load)	88.483%	PASS
6.6. Line Regulation	I/P:90VAC~264VAC	<±5%	0.058%	PASS
6.7. Load Regulation	I/P:115VAC O/P:MIN~FULL LOAD	<±5%	-4.042%	PASS
	I/P:230VAC O/P:MIN~FULL LOAD	<±5%	-4%	PASS
6.8. Over-Voltage Protection	I/P:230VAC O/P:MIN LOAD	V1 : 13~18 (MAX)	-	-
6.9. Over-Current Protection	O/P: 12V	10.5A(MAX)	8.8A	PASS
6.10. Over-Load Protection	I/P:90VAC O/P:MIN LOAD	150%	125%	PASS
	I/P:115VAC O/P:MIN LOAD	150%	125%	PASS
	I/P:230VAC O/P:MIN LOAD	150%	132%	PASS
	I/P:264VAC O/P:MIN LOAD	150%	132%	PASS
6.11. Short Circuit Protect	I/P:115VAC O/P:MIN LOAD	12V&GND Short	-	PASS
	I/P:230VAC O/P:MIN LOAD	12V&GND Short	-	PASS

6.12. Ripple & Noise	I/P:115VAC O/P:FULL LOAD	$\leq 150\text{mv}$	46.9mv	PASS
	I/P:230VAC O/P:FULL LOAD	$\leq 150\text{mv}$	36.9mv	PASS
6.13. Setup Time	I/P:115VAC O/P:FULL LOAD	3S(MAX)	401ms	PASS
	I/P:230VAC O/P:FULL LOAD	mS(MAX)	489ms	-
6.14. Hold up Time	I/P:115VAC O/P:FULL LOAD	20mS(MIN)	23.2ms	PASS
	I/P:230VAC O/P:FULL LOAD	mS(MIN)	79.5ms	-
6.15. Rise Time	I/P:115VAC O/P:FULL LOAD	mS(MAX)	27.2ms	PASS
	I/P:230VAC O/P:FULL LOAD	mS(MAX)	25ms	-
6.16. Turn on Overshoot	Turn on overshoot shall not exceed 10% over nominal voltages@ 20 % LOAD		-	PASS
	Turn on overshoot shall not exceed 10% over nominal voltages@ 20 % LOAD		-	PASS
6.17. Turn off Undershoot	Turn off undershoot shall not exceed 10% over nominal voltages		-	PASS
	Turn off undershoot shall not exceed 10% over nominal voltages		-	PASS
6.18. Power Consumption Test with DC Power	No Run Prime 95	I/P:9VDC 1.47A 13.23W		PASS
	Run Prime 95	I/P:9VDC 3.60A 32.4W		PASS
	No Run Prime 95	I/P:30VDC 0.51A 15.3W		PASS
	Run Prime 95	I/P:30VDC 1.09A 32.7W		PASS
6.19. Power Consumption Test with AC Adapter	No Run Prime95	I/P:100VAC 0.32A 15.3W	O/P : 12V/1.11A 13.32W	PASS
	Run Prime 95	I/P:100VAC 0.72A 36.5W	O/P : 12V/2.62A 31.44W	PASS
	Sleep mode(S3)	I/P:100VAC 0.05A 2.2W	O/P : 12V/0.15A 1.8W	PASS
	Off mode	I/P:100VAC 0.04A 1.9W	O/P : 12V/0.13A 1.56W	PASS